```
=> D HIS
                    (FILE HOME)

                    FIL CA
                    SET COST OFF
                    SET PADDING 0

                    FIL REG
L1                1 S ZINC GLUCONATE/CN
L2                0 S ZINC GULONATE/CN
L3                2 S ALANINE/CN
L4                2 S VALINE/CN
L5                2 S ISOLEUCINE/CN
L6                2 S PROLINE/CN
L7          1 S GLYCINE/CN
L8          2 S SERINE/CN
L9          2 S THREONINE/CN
L10               2 S ASPARAGINE/CN
L11               2 S GLUTAMINE/CN
L12               2 S LYSINE/CN
L13               2 S ARGININE/CN
L14               2 S HISTIDINE/CN
L15               1 S ZINC ACETATE/CN

                    FIL CA
L16              75 S L1 OR ZINC(W)GLUCONATE
L17           25540 S L3 OR ALANINE
L18           12451 S L4 OR VALINE
L19            7399 S L5 OR ISOLEUCINE/CN
L20            8629 S L5 OR ISOLEUCINE
L21           14266 S L6 OR PROLINE
L22           30794 S L7 OR GLYCINE
L23           15697 S L8 OR SERINE
L24           10247 S L9 OR THREONINE
L25            6312 S L10 OR ASPARAGINE
L26           11353 S L11 OR GLUTAMINE
L27           24239 S L12 OR LYSINE
L28           17756 S L13 OR ARGININE
L29           14940 S L14 OR HISTIDINE

=> S L15 OR ZINC(W)ACETATE
            1770 L15
          160765 ZINC
           85271 ACETATE
             926 ZINC(W)ACETATE
L30         1961 L15 OR ZINC(W)ACETATE
```

```
=> S L16 AND SPERM?
        16483 SPERM?
L31           0 L16 AND SPERM?

=> S ZINC AND SPERM
       160765 ZINC
        12636 SPERM
L32       204 ZINC AND SPERM

=> S L30 AND SPERM?
        16483 SPERM?
L33           5 L30 AND SPERM?

=> S ZINC AND SPERM?
       160765 ZINC
        16483 SPERM?
L34       223 ZINC AND SPERM?

=> S L34 AND L28
L35           1 L34 AND L28

=> D L35

L35 ANSWER 1 OF 1

AN  CA107(21):195314p
TI  Chemical constituents of trout seminal plasma after minimal and
    maximal cell damage treatments with possible applications to semen
    evaluation assays
AU  Schmehl, M. K.; Graham, E. F.; Erdahl, D. A.
CS  Dep. Anim. Sci., Univ. Minnesota
LO  St. Paul, MN 55108, USA
SO  Aquaculture, 62(3-4), 311-18
SC  12-6 (Nonmammalian Biochemistry)
SX  9
DT  J
CO  AQCLAL
IS  0044-8486
PY  1987
LA  Eng

=> D AB

L35 ANSWER 1 OF 1

AB  Brown trout (Salmo trutta) and rainbow trout (S. gairdneri)
    spermatozoa were removed from semen by discontinuous d. gradient
    centrifugation for minimal damage samples and by centrifugation after
    plunging in liq. N for maximal damage samples.  Seminal plasma
    samples were then analyzed for mineral, glutamic oxalacetic
    transaminase (GOT), lactate dehydrogenase (LDH) and total amino acid
    content.  There were increases in K+ and NH3 and greater increases in
    P, Mg, GOT, LDH, and 16 amino acid levels in brown trout seminal
    plasma after maximal damage treatments.  Na and Ca content decreased,
    whereas no differences occurred in B, Zn, or cysteic acid content
    after maximal damage treatments.  However, in rainbow trout seminal
    plasma after maximal cell damage, Zn and Ca levels decreased.  GOT,
    LDH and 14 amino acid levels increased.  There were no differences in
    P, Na, Mg, B, or 4 amino acid levels in the latter species.  Changes
    in GOT and LDH content are therefore most applicable to monitoring
    cellular damage for semen-processing techniques.

=> S L34 AND (L17 OR L18 OR L19 OR L20 OR L21 OR L22 OR L23 OR L24 OR L25 OR L26
  OR L27 OR L29)
L36           6 L34 AND (L17 OR L18 OR L19 OR L20 OR L21 OR L22 OR L23 OR
                L24 OR L25 OR L26 OR L27 OR L29)

=> D L36 1-6

L36 ANSWER 1 OF 6

AN  CA110(5):35648j
TI  pH-dependence of photoinduced electron transfer in zinc-substituted
    sperm whale myoglobin
AU  Shosheva, A.; Khristova, P.; Atanasov, B.
CS  Cent. Phytochem., Inst. Org. Chem.
LO  Sofia, Bulg.
SO  Biochim. Biophys. Acta, 957(2), 202-6
SC  6-3 (General Biochemistry)
DT  J
CO  BBACAQ
IS  0006-3002
PY  1988
LA  Eng

L36 ANSWER 2 OF 6

AN  CA107(21):195314p
```

TI Chemical constituents of trout seminal plasma after minimal and maximal cell damage treatments with possible applications to semen evaluation assays
AU Schmehl, M. K.; Graham, E. F.; Erdahl, D. A.
CS Dep. Anim. Sci., Univ. Minnesota
LO St. Paul, MN 55108, USA
SO Aquaculture, 62(3-4), 311-18
SC 12-6 (Nonmammalian Biochemistry)
SX 9
DT J
CO AQCLAL
IS 0044-8486
PY 1987
LA Eng

L36 ANSWER 3 OF 6

AN CA102(19):164051t
TI Zinc reduces turkey sperm oxygen uptake in vitro
AU Bakst, M. R.
CS Avian Physiol. Lab., US Dep. Agric.
LO Beltsville, MD 20705, USA
SO Poult. Sci., 64(3), 564-6
SC 12-2 (Nonmammalian Biochemistry)
SX 13
DT J
CO POSCAL
IS 0032-5791
PY 1985
LA Eng

L36 ANSWER 4 OF 6

AN CA97(21):177214b
TI Sperm-whale oxymyoglobin oxidation in presence of zinc and gold ions
AU Khristova, P.; Atanasov, B.
CS Biophys. Chem. Proteins Lab., Inst. Org. Chem.
LO Sofia, Bulg.
SO Dokl. Bolg. Akad. Nauk, 35(4), 521-4
SC 6-3 (General Biochemistry)
DT J
CO DBANAD
IS 0366-8681
PY 1982
LA Eng

L36 ANSWER 5 OF 6

AN CA94(17):140166z
TI Nonapeptide and decapeptide derivatives of luteinizing hormone releasing hormone
AU Nestor, John J.; Jones, Gordon H.; Vickery, Brian H.
CS Syntex (U.S.A.), Inc.
LO USA
PI U.S. US 4234571, 18 Nov 1980, 15 pp.
AI Appl. or Pr. 47661, 11 Jun 1979
CL 424-177; A61K37/00, C07C103/52
SC 34-3 (Synthesis of Amino Acids, Peptides, and Proteins)
SX 63
DT P
CO USXXAM
PY 1980
LA Eng

L36 ANSWER 6 OF 6

AN CA90(9):69981w
TI Destabilization of human sperm membranes by albumin, EDTA and histidine
AU Johnsen, O.; Eliasson, R.
CS Fac. Med., Karolinska Inst.
LO Stockholm, Swed.
SO Int. J. Androl., 1(5), 485-8
SC 13-13 (Mammalian Biochemistry)
DT J
CO IJANDP
PY 1978
LA Eng

=> D 3 TI AB

L36 ANSWER 3 OF 6

TI Zinc reduces turkey sperm oxygen uptake in vitro
AB The effects of Zn2+ and histidine (a Zn2+ chelator) on O2 uptake by turkey sperm was examd. in diluents without and with added fructose. The presence of 0.5 mM Zn2+ in a diluent without fructose depressed sperm O2 uptake below that of sperm in diluent plus

with 3 mM histidine but did not depress sperm fertility. Histidine had no effect on sperm O2 uptake. Sperm O2 uptake in diluents contg. 1 mM fructose was less in the presence of Zn2+ than in diluents alone or in diluent with histidine. Zn2+ may play a regulatory role in sperm O2 uptake in vivo.

=> S L34 AND INHIB?
SEARCH ENDED BY USER

=> S L34 AND (INHIBIT? OR DEPRES?)
307373 INHIBIT?
15666 DEPRES?
L37 32 L34 AND (INHIBIT? OR DEPRES?)

=> SET PADDING 15
SET COMMAND COMPLETED

BIB AB

? date

L37 ANSWER 2 OF 32

AN CA110(1):2420a
TI Effect of selected metal ions on the motility and carbohydrate metabolism of ejaculated human spermatozoa
AU Kanwar, U.; Chadha, S.; Batla, A.; Sanyal, S. N.; Sandhu, R.
CS Dep. Zool., Panjab Univ.
LO Chandigarh 160 014, India
SO Indian J. Physiol. Pharmacol., 32(3), 195-201
SC 4-3 (Toxicology)
DT J
CO IJPPAZ
IS 0019-5499
PY 1988
LA Eng
AB Zinc, lead and cadmium in the form of chloride salts when added to a std. assay system contg. 80 .times. 10-6 ejaculated washed human spermatozoa caused a dose- and duration-dependent inhibition of their motility. Glycogen phosphorylase, glucose-6-phosphatase, fructose-1,6-diphosphatase, glucose-6-phosphate isomerase, amylase, Mg-dependent ATPase, and lactic and succinic acid dehydrogenases were also inhibited. Inhibitory effects of the metals increased in series zinc < lead < cadmium. EDTA also interfered with the spermatozoal motility and inhibited the enzyme activities.

L37 ANSWER 12 OF 32

AN CA98(1):3134f
TI Inhibition of human and bovine sperm acrosin by divalent metal ions. Possible role of zinc as a regulator of acrosin activity
AU Steven, F. S.; Griffin, M. M.; Chantler, E. N.
CS Dep. Med. Biochem., Univ. Manchester
LO Manchester M13 9PT, UK
SO Int. J. Androl., 5(4), 401-12
SC 13-7 (Mammalian Biochemistry)
DT J
CO IJANDP
IS 0105-6263
PY 1982
LA Eng
AB Human and bovine spermatozoa have been collected and washed repeatedly with isotonic saline to remove seminal plasma inhibitors and activate the acrosin. Then the acrosin activity of the cells was assayed with .alpha.-N-benzoyl-DL-arginine-.beta.-naphthylamide (BANA). The surface-bound enzyme was not inhibited by high-mol.-wt. inhibitors of trypsin but was markedly inhibited by low-mol-wt. trypsin inhibitors. Divalent metals (Zn2+, Cu2+, Hg2+, Co2+, Cd2+) were all efficient inhibitors of acrosin on the washed cells. Removal of Zn or Cu from acrosin completely restored activity. Thus, the different levels of Zn in the male and female genital tract may regulate acrosin activity. Aged cells released a sol. acrosin which

was inhibited by serum and seminal plasma inhibitors of trypsin-like enzymes as well as by Zn ions in an identical manner to the surface-bound enzyme.

L37 ANSWER 17 OF 32

AN CA95(23):198271s
TI Zinc effects on mouse spermatozoa and in vitro fertilization
AU Aonuma, S.; Okabe, M.; Kawaguchi, M.; Kishi, Y.
CS Fac. Pharm. Sci., Osaka Univ.
LO Osaka, Japan
SO J. Reprod. Fertil., 63(2), 463-6
SC 3-5 (Biochemical Interactions)
DT J
CO JRPFA4
IS 0022-4251
PY 1981
LA Eng
AB The fertilizing ability of mouse epididymal and capacitated spermatozoa was tested by mixing with normal or zona-free ova. In the presence of Zn2+, the epididymal spermatozoa failed not only to penetrate the zona pellucida but also to fuse with zona-free ova, whereas no effect was obsd. on capacitated spermatozoa. Zn2+ also inhibited fertilization with spermatozoa preincubated in Ca2+-free medium. However, shortly after the addn. of Ca2+ to the preincubated spermatozoa, Zn2+ lost its fertilization inhibitory activity.

L37 ANSWER 23 OF 32

AN CA88(2):11916w
TI Injectable sterilization agent for domestic animals for selective control of the testes functioning
AU Fahim, Mostafa S.
CS University of Missouri Curators
LO USA
PI Ger. Offen. DE 2702914, 15 Sep 1977, 42 pp.
AI US Appl. 757099, 5 Jan 1977
CL A61K33/20
SC 63-6 (Pharmaceuticals)
DT P
CO GWXXBX
PY 1977
LA Ger
AB Aq. mixts. of Zn salts and tannins are useful in the sterilization of domestic male animals and for treatment of prostate enlargement and diseases of the testes and scrotum. The compns. are injected into the testicles or scrotum. The extent of spermatogenesis inhibition and/or suppression of testosterone (I) [58-22-0] prodn. can be controlled by the site of injection (testes or scrotum), and the amt. and compn. of the injection soln. For example, sexally mature male rats were injected in each testis with 0.05 mL of a soln. of 0.5 mg kastrin (1:1 tannic acid-zinc sulfate mixt.) [64719-34-2]. The treated rats were sterile, but their reproductive organs did not show significant changes in wt. or I concn. in comparison to control rats. Administration of these compns. did not increase whole body, liver and blood Zn concns. or cause histol. changes in the testes.

D 31 BIB AB

L37 ANSWER 31 OF 32

AN CA74(9):40226n
TI Inhibition of human sperm motility by calcium and zinc ions
AU Rosado, Adolfo; Hicks, J. J.; Martinez-Zedillo, G.; Bondani, A.; Martinez-Manautou, Jorge
CS Cent. Med. Nac., Inst. Mex. Seguro Soc.

LO Mexico, D. F., Mex.
SO Contraception, 2(4), 259-73
SC 11 (Mammalian Biochemistry)
DT J
CO CCPTAY
PY 1970
LA Eng
AB Motility and viability of human spermatozoa are lost promptly in the presence of 0.01M Cu2+, 0.2M Ca2+, or 0.3M Zn2+, Mg2+, or Ni2+, and monovalent cations had no such effect at a concn. of 0.5M. Pyruvate and adenylate kinase activities were practically completely inhibited by 0.1M Ca2+ or Zn2+.

=> D L31 BIB AB
'L31' HAS NO ANSWERS
L1 1 SEA ZINC GLUCONATE/CN
L16 75 SEA L1 OR ZINC(W)GLUCONATE
L31 0 SEA L16 AND SPERM?

=> D L37 BIB AB

L37 ANSWER 1 OF 32

AN CA110(17):150272u
TI Isolation and characterization of a DNA-binding protein from pearl millet mitochondria
AU Lim, Yong Pyo; Kim, Byung Dong
CS Dep. Plant Sci., Univ. Rhode Island
LO Kingston, RI 02881, USA
SO Han'guk Saenghwa Hakhoechi, 21(4), 351-6
SC 7-2 (Enzymes)
DT J
CO KBCJAK
IS 0368-4881
PY 1988
LA Eng
AB A DNA-binding protein was isolated from pearl millet (Pennisetum typhoides) mitochondrial DNA. The DNA-binding protein transformed neg. supercoiled pBR322 DNA into an open circle DNA as a major product, and a linear DNA and a high-mol.-wt. multimer as minor products. The reaction was dependent on divalent cations (Mg++, Mn++, Zn++, and Co++), but was independent of ATP. The enzyme reaction was inhibited by high concns. of monovalent and divalent cations, EDTA, SDS, and spermidine. The putative multifunctional enzyme is tentatively designated as a new class of topoisomerase, since, unlike the bacterial topoisomerase I, it does not produce the ladder intermediates.